

AMENDMENTS TO THE DRAWINGS

Please delete FIGS. 15-20. Original drawing sheets 6-8 are deleted.

REMARKS

Dealing with preliminary matters first, Applicant thanks the Examiner for acknowledging Applicant's claim to priority and receipt of the priority document. It is also noted with appreciation that the Examiner has considered the Information Disclosure Statement filed September 27, 2005. Finally, Applicant thanks the Examiner for accepting the formal drawings.

Applicant has deleted the portions of the specification directed to the second and third embodiments, including FIGS. 15-20 and the portions of the specification that refer to these figures. Moreover, claims 7, 8, and 10-13, which are directed to the second and third embodiments have been cancelled.

Turning to the substance of the Office Action, claims 1-13 are all the claims pending in the application.

Claim Rejections Under 35 USC 102 and 103:

Claims 1-8, 10, 11 and 13 are rejected under 35 U.S.C. § 102(b) as being anticipated by Ohta, et al. (U.S. Patent Publication No. 20030183039 A1).

Claims 9 and 12 are rejected under 35 U.S.C. § 103(a) as being unptentable over Ohta, et al. in view of Komeya, et al. (U.S. Patent No. 4,660,881).

For the following reasons, Applicant respectfully traverses the Examiner's rejections.

Claim 1

With respect to, Applicant respectfully notes that that overall compactness is a main object to be pursued by the device of independent claim 1, as stated at page 2, second full paragraph, of the PCT application as filed. Particularly, *axial compactness* is a goal, since in

most cases the device of claim 1 is to be mounted on the (outer) side of a small drawer or lid and is to be accommodated in a housing, with very little space available.

That is, referring the exemplary embodiment shown in FIGS. 2 and 3, the disc portion 32 of the rotor *is fully immersed within the fluid chamber 18*. Particularly, in the exemplary embodiment, the opposing flat surfaces 23a (this is the bottom surface of the stationary casing 17) and 62 of the rotor disc portion 32 are axially close to one another. The lid 21 is axially close to the upper surface of the disc rotor 32. This arrangement of parts within the chamber 18 containing the viscous liquid is carefully designed so as to gain maximum friction with the liquid, while keeping the axial bulk as low as possible. As shown with respect to the exemplary embodiment of FIG. 4, the very narrow gaps between either side of the disc portion 32 and the surface 23a of member 17 and the lower side (not numbered) of cover 21 ensure laminar flow within the chamber 18 as the disc 32 rotates, and therefore high friction and effective rotation dampening action. In other words, friction is enhanced if the viscous liquid is forced to flow in narrow interstices.

In contrast, in Ohta, the viscous fluid 42 (see FIG. 2 of Ohta) is confined within *a narrow cylindrical chamber*. The rotatable inner case 37, which is asserted by the Examiner as corresponding to the recited “disc portion,” is not *fully immersed* in a cylindrical chamber.

Ohta (see particularly FIG. 2) discloses a rotary damper including an inner case 37 of cylindrical shape rotatably fitted in the interior of the stationary outer case 35. A coiled spring 55 (see paragraph [0055]) is fitted around the shaft portion 48 of the rotatable case 37. A viscous fluid 42 is interposed between the inner periphery surface 35b of the outer case 35 and the outer periphery surface of the peripheral wall 37b of the inner case 37 (paragraph [0028]). However, the inner case 37 cannot be considered fully immersed because the liquid in Ohta is only

provided between the cases 35 and 37 in the annular chamber (not numbered) between the walls 37a and 48.

In addition, the device of claim 1 would not have been obvious. A person having an ordinary skill in the art, faced with the problem of providing an efficient but axially compact rotation damper would not be able to arrive at the applicant's arrangement starting from Ohta without the exercise of inventive skill.

Furthermore, the skilled person would not consider Ohta as a good starting point for making an axially compact device. The reason for this is that the skilled person would have immediately realize that if the flat walls 35a and 37a of Ohta were to be brought closer to one another, in order to compact the device axially, this would

- firstly, drastically cut down the volume of the chamber for the fluid 42, whereby the action of the viscous liquid would almost disappear, and
- secondly, there would not be enough space along the shaft portion 48 to wind the spring 55 around it.

Stated differently, the skilled person would understand that in order to increase dampening efficiency of Ohta's dampener, the device *should be made thicker axially*.

Specifically, in order to arrive at the device of claim 1, the skilled person would basically have to destroy the Ohta design, since he would have to

- transfer the viscous liquid from the peripheral chamber to the more central one,
- enclose the wall 37a in the liquid chamber, and
- remove the spring from within the device.

Therefore, for at least the reasons discussed above, there is no teaching or suggestion in Ohta pointing towards any modification of this kind.

Thus, Applicant respectfully submits that independent claim 1 is patentable.

Dependent Claims

Applicant respectfully submits that dependent claims 2-6 and 9 are patentable at least because of their dependency from claim 1. Moreover, Komeya, which the Examiner cites as showing disc portion of a rotor with a plurality of radial vane portions, does not make up for the deficiencies in Ohta discussed above with respect to claim 1.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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